

Work Order ID: 93319

93319

Page 1

November-15-12 11:37:33 AM

Item ID: D6101-003

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Saddle Billet, 7075

Start Date: 11/15/12

Start Qty: 30.00

30

Cust Item ID:

Required Date: 11/30/12

Req'd Qty: 30.00

30

Customer:

Reference:

Run Start

NR1

Approvals:

Process Plan:

MCS

Date:

12-11-12

Tooling:

Date:

Stop

NR2

QC:

Date:

SPC (Y/N):

Date:

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

Draw Nbr

Revision Nbr

D6101

Rev B

100

0.00

100

PURCHASING

Purchasing

Memo

0.00

Purchasing

Issue P/O:

18441

a) Description: Aluminum billet

b) 7.875" x 6.250" x 2.00" thick

c) Tolerance on all dimensions are +0.030"/-0.000"

d) Grain direction along 7.875" length

e) Material: 7075-T7351 (QQ-A-250/12)

f) Material certification required

CL 12/11/12 30

110

Receive & Inspect for Damage & Mat'l Certs

0.00

110

Packaging

Memo

0.00

Packaging

Ensure material certification is attached

18441 (B)

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------------------------------|--|---|---|-------------------|---|-------------|--------------|--|--|---|------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____ Part No. _____ NCR No. _____ | | | | DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/> | | AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Skid-tube <input type="checkbox"/></td> <td style="width: 25%;">Crosstube <input type="checkbox"/></td> <td style="width: 25%;">Water Jet <input type="checkbox"/></td> <td style="width: 25%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | | | | | | Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | |
| Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | |
| Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | |
| Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | |
| Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | |
| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector | | | | | | | | | | | | | | | | | | |
| Doc/Data <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Equip/Tooling <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operator <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Material <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Setup <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Process <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Supplier <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Training <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Unapproved <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FAULT CATEGORY | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube | | | General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio | | | <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions | | | <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge | | <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other | | | | | | | | | | | | | | | | |

Work Order ID 93319

November-15-12 11:37:33 AM

93319

Page 2

Item ID: D6101-003 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle Billet, 7075
 Start Date: 11/15/12 Start Qty: 30.00 ***30*** Cust Item ID:
 Required Date: 11/30/12 Req'd Qty: 30.00 ***30*** Customer:
 Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------------------|
| 120 *120* QC Quality Control | QC6- Inspect dimensions to drawing Memo Ensure Material certification comply to Dwg D6101 | 0.00 0.00 | | | | 28 | 2 | | DAS 25 12-12-10 |
| 130 *130* Packaging Packaging | Identify as per dwg & Stock Location: <u>MAT 42</u> Memo | 0.00 0.00 | | | | 28 | | | FK 12/12/10 |
| 140 *140* QC Quality Control | QC21- Final Inspection - Work Order Release Memo | 0.00 0.00 | | | | | | | 12/12/13 me 12-12-11 |

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------------------------------|--|---|---|----------------------|--|----------------|--------------|--|--|---|------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
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| Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | |
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| Equip/Tooling <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operator <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Material <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Setup <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Process <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Supplier <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Training <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Unapproved <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FAULT CATEGORY | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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Picklist Print

November-15-12 11:37:33 AM

Page 1

Work Order ID: 93319

Parent Item: D6101-003

Parent Item Name: Saddle Billet, 7075

Start Date: 11/15/12

Required Date: 11/30/12

Start Qty: 30.00

Required Qty: 30.00

Comments: IPP A: 01.05.04New IssueC

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| D6101-003P | | Purchased | No | | | 110 | Each | 0.0000 | 1 | 30 | | | |

7075-T7351-2X6-25X7.875

Pa 12/17/12 (30)

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

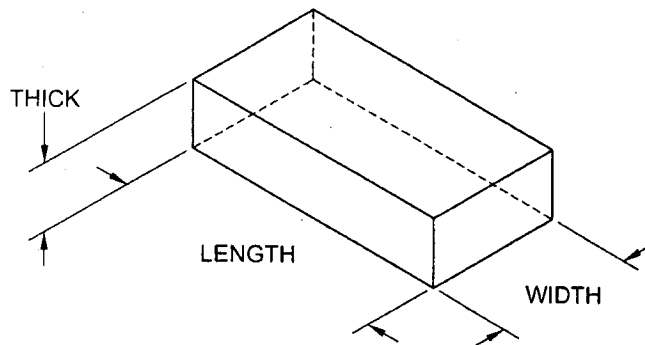
| | | | | | | | | | | | | | | | | | | |
|--|---|---|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____ Part No. _____ NCR No. _____ | DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/> | AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Skid-tube <input type="checkbox"/></td> <td style="width: 25%;">Crosstube <input type="checkbox"/></td> <td style="width: 25%;">Water Jet <input type="checkbox"/></td> <td style="width: 25%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | |
| Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | | | | | | | | | | | | | | | | |

| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|--|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Doc/Data <input type="checkbox"/> | | | | | | | | | |
| Equip/Tooling <input type="checkbox"/> | | | | | | | | | |
| Operator <input type="checkbox"/> | | | | | | | | | |
| Material <input type="checkbox"/> | | | | | | | | | |
| Setup <input type="checkbox"/> | | | | | | | | | |
| Other <input type="checkbox"/> | | | | | | | | | |
| Process <input type="checkbox"/> | | | | | | | | | |
| Supplier <input type="checkbox"/> | | | | | | | | | |
| Training <input type="checkbox"/> | | | | | | | | | |
| Unapproved <input type="checkbox"/> | | | | | | | | | |

FAULT CATEGORY

| | | |
|---|---|---|
| Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube | General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio | <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions |
| | | <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge |
| | | <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other |

SPECIFICATION CONTROL DRAWING



NO. 93319 M45
 12-11-16
 WORK ORDER
 SUBJECT: 12-11-16
 UNCONTROLLED COPY
 ENGINEERING
 R. T. D. L.
 SIV.

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

△ B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

| Part No. | Alloy | Length | Width | Thick | Grain Direction |
|-----------|--------------------------|--------|-------|-------|--------------------|
| D6101-001 | 7075-T7351 (QQ-A-250/12) | 6.000 | 6.250 | 2.000 | Along 6.000 Length |
| D6101-003 | 7075-T7351 (QQ-A-250/12) | 7.875 | 6.250 | 2.000 | Along 7.875 Length |
| D6101-005 | 7075-T7351 (QQ-A-250/12) | 5.000 | 8.250 | 2.500 | Along 5.000 Length |
| D6101-007 | 7075-T7351 (QQ-A-250/12) | 7.750 | 8.250 | 2.500 | Along 7.750 Length |
| D6101-009 | 7075-T7351 (QQ-A-250/12) | 8.700 | 8.250 | 2.500 | Along 8.700 Length |
| D6101-011 | 7075-T7351 (QQ-A-250/12) | 9.700 | 8.250 | 2.500 | Along 9.700 Length |
| D6101-013 | 7075-T7351 (QQ-A-250/12) | 10.100 | 8.250 | 2.500 | Along 10.10 Length |
| D6101-015 | 7075-T7351 (QQ-A-250/12) | 9.450 | 6.250 | 2.500 | Along 9.450 Length |
| D6101-017 | 7075-T7351 (QQ-A-250/12) | 6.350 | 6.250 | 2.250 | Along 6.350 Length |
| | | | | | |
| | | | | | |

RELEASED
 09/07/15/W

| | | | |
|------------|-------------------------------------|---|--------------|
| B | ADDED D6101-015/-017, ADD ASTM B209 | RF | 09.04.23 |
| A | NEW ISSUE | CP | 01.03.30 |
| REV. | DESCRIPTION | BY | DATE |
| DESIGN | CP | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| DRAWN | RF | | |
| CHECKED | <i>[Signature]</i> | DRAWING NO. | REV. B |
| MFG. APPR. | <i>[Signature]</i> | D6101 | SHEET 1 OF 1 |
| APPROVED | <i>[Signature]</i> | TITLE | SCALE |
| DE APPR. | <i>[Signature]</i> | SADDLE BILLET, 7075 | NTS |
| DATE | 09.04.23 | COPYRIGHT © 2001 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small> | |

**Castle Metals®**

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 1 of 2

No de Formulaire d'Emballage / Shipment No:1565010

| | | | | | | | |
|--|---------------|---|--|--|--|--|--|
| Expédié de / Ship From: | | Vendu à / Sold To: | | Expédié à / Ship To: | | Livré à / Deliver To: | |
| A. M. Castle & Co. (Canada) Inc. MONTREAL - CASTLE METALS 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2 | | DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA | | DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN | | DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA | |
| Date d'expédition / Date Shipped | F.O.B. | Modalités de transport / Freight Terms | | Transporteur / Carrier | | No du Bon de connaissance / BOL No | |
| 06-DEC-2012 | ORIGIN | Prepaid | | MANITOULIN | | 1565010-2 | |

| | | | | | | | | |
|---|----------------------|--|------------------------|--------------|--|-------------------------------|--------------------------------|--|
| Détails d'expédition / Shipment Details | | | | | Destination finale / Final Destination Branch - MON | | | |
| N° de commande / Order No | | N° de ligne Line No | N° d'article / Item No | | Description | | | |
| 2550929 | | 1 | 752237.MO | | 2.0000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 6.25 IN () X 7.875 IN () SPECIFICATIONS: SHIP AS SOON AS REC'D QQ-A-250/12 GRAIN ALONG 7.875" | | | |
| N° de bon de commande / Purchase Order No | | Nbre de pièces / Part Number | | | Qté commandée / Ordered Qty | | Qté Facturée / Invoice Qty | |
| 18441 | | YOUR ITEM NUMBER: D6101-003 | | | 30.00 PCS | | 30.00 PCS | |
| Détails / Details | | SHIP AS SOON AS REC'D QQ-A-250/12 GRAIN ALONG 7.875" | | | | | | |
| N° de livraison / Delivery No : | Usine / Mill | No de coulée / Heat Number | Code méc / Mech Id | Pièces / PCS | Largeur (Pouce)/ Width (IN) | Longueur (Pouce)/ Length (IN) | Qté expédiée/ Shipped Qty(LBS) | |
| 118210764 | MATERIALS TECHNOLOGY | 651951 | | 30 | | | 304.8254 | |

**Castle Metals®**

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 2 of 2

| | | | | | | |
|--|--|--|--|-------|-------|--|
| SOLUTIONS | | | | | | |
| <p>Ces marchandises/technologies sont sujettes aux règlements de l'Export Administration et du département d'état des États-Unis. Si elles ont été/sont exportées, elles doivent se conformer à ces règlements. Toute modification du contrat de transport contraire aux lois des États-Unis est interdite.</p> <p>These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.</p> <p>Nous certifions par la présente que le matériel couvert par cette certification est conforme aux spécifications susmentionnées et aux exigences applicables pour le matériel, y compris toute spécification faisant partie de la description. Les rapports d'essai sont archivés pour fins de consultation. Toute requête concernant du matériel défectueux sera rejetée à moins qu'elle ne soit faite par écrit à A. M. Castle & Co. dans les 60 jours suivant la livraison. Le matériel coupé sur mesure ou coupé par le client ne peut être retourné pour crédit.</p> <p>We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.</p> | | | | | | |
| Ce matériel a été reçu et inspecté par Reviewed by Authorized Castle Metals Representative: | | | | Date: | Name: | |

CERTIFIED INSPECTION REPORT

Alcoa Inc.

DAVENPORT WORKS 4879 State Street Bettendorf, IA 52722

Ship From: RIVERDALE, IA.

We hereby certify that the material covered by this certificate has been inspected with, and has been found to meet the applicable requirements described therein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and had the mechanical properties shown on the face of this sheet.

This test report shall not be reproduced except in full, without the written approval of the Quality Department. No alteration, addition or other change is authorized to be made in a certificate. The recording of false, fictitious, or otherwise fraudulent statements or entries on this certificate by any recipient may be punished as a felony under applicable law.

Rob Woodall

Rob Woodall

Director of Manufacturing Davenport Works

Terrance Thom
Terrance Thom
Quality Assurance Manager

Page 2 of 2

1462476
Ship Date: 2012-10-12 B.I. No.: 7428446 Invoice No.: 00000 Alcoa No.: 1000417340-4 Item: DP-17340-4
P.O. No./Govt Contract No.: 039050 Lnh# 4 Customer: HADCO METAL TRADING Co. Alcoa Item: 0041015519821

CQR: D164164.34 - Specification Limits (cont.)

T7351 Elec. Cond. (SCI & MIN 38.0 PCT

| Chemical Composition | | SI | FE | CU | MN | MG | CR | ZN | TI | Other | Other |
|--|--------|--------|------|------|-----|------|-----|------|-----|-------|-------|
| | | Max | 0.40 | 0.50 | 2.0 | 0.30 | 2.9 | 0.28 | 6.1 | 0.20 | 0.05 |
| | | Min | | | 1.2 | | 2.1 | 0.18 | 5.1 | | |
| Alloy | 7075 | | | | | | | | | | |
| Lot: | 651951 | | | | | | | | | | |
| Mechanical, Physical, Metallography, Quantometer Results | | REMAIN | | | | | | | | | |

| Temp Dir | | No. 2 | UTS | FYS | EDGD |
|----------|--------------|-------|------|------|------|
| Test | | KSI | KSI | PCT | |
| T7351 | Long Transv. | 3 | 72.2 | 61.6 | 10.7 |
| | | | 72.3 | 61.6 | 10.5 |
| | | | 72.1 | 61.4 | 10.7 |

T7351 Elect Cond #IACS 40.1 40.1 40.1 PCT

| Cast Number | Chemical - CES | SI | FE | CU | MN | MG | CR | ZN | TI |
|-------------|----------------|------|------|-----|------|-----|------|-----|------|
| H9043096 | Actuals | 0.07 | 0.28 | 1.6 | 0.04 | 2.5 | 0.19 | 5.6 | 0.02 |

This material was melted in the United States or a Qualifying Country [REF DEARS 225.872.11a] it was manufactured in the United States

Castle Metals Mon

HEAT NUMBER 651951
MECHANICAL ID
ITEM CODE 752237.80
LOT NUMBER 2796268 MON
PO NUMBER 17424
RECEIPT DATE 12-5-12
SUPPLIER MTR
SPECIFICATION AMS-QQ-A-250-12
LCS
COMMENT
APPROVED B

Item 752237 Bo Bo 17424 2 pager

CERTIFIED INSPECTION REPORT

Alcoa Inc.

DAVENPORT WORKS 4879 State Street Bettendorf, IA 52722

Ship From: RIVERDALE, IA.

We hereby certify that the material covered by this certificate has been inspected with, and has been found to meet the applicable requirements described therein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and had the mechanical properties shown on the face of this report.

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Rob Woodall

Rob Woodall
Director of Manufacturing Davenport Works

Terrence Thibault

Terrence Thibault
Quality Assurance Manager

Page 1 of 2

| | | | |
|----------------------------|---------------------|---------------|----------------|
| 1342476 | 0 | | |
| Ship Date | B.I. No. | Invoice No. | Alcoa No. Item |
| 2012-10-12 | 7428446 | 60000 | 1000427140-4 |
| P.O. No./Govt Contract No. | Customer | Alcoa Item | DP-17340-4 |
| 039050 Lnn: 4 | HISCO METAL TRADING | GD41015519R21 | |

Item Description
2.0 IN TK (4.055 - .055) X 48.5 IN W (4.3125 -
0.000) X 144.5 IN LN (4.5 - 0.0) CAT D 164164 (N) A/T 7075-
T7351 RECTANGLE MILL FINISH, US1 3MM BEAD ZONE REQ'D BOTH SIDES,
SAWED. AMS-QQ-A-250/12 IS 2007 AMS-STD-
2154 IS 2010 EXC MRK AMS4378 REV J EXC MRK
ASTM209 REV 10 ASTM5594 REV 09 BSS7055
REV A EXC MRK WMS158 REV T 2621211 REV I
(MARKED!) KRAFT PAPER INTERLEAVED
MAX GROSS SKID WGT: 4500 LB QUAN TOL +/-
40 * US1 CL A 3 MM COR D164164 REV 34 CUST REQ 12-09-
28 *** W/E 12-10-13 ***

| Num | Package Ticket | Lot | Weight | Quantity | UOM | Inspector Check Numbers |
|-----|----------------|--------|--------|----------|-----|-------------------------|
| 1 | 458063 | 651951 | 1431 | 1 | PC | |
| 2 | 458065 | 651951 | 2860 | 2 | PC | |
| 3 | 458067 | 651951 | 2868 | 2 | PC | |
| | | | 7159 | 5 | | |

Notes for COR: D164164.34
THIS MATERIAL HAS BEEN ULTRASONICALLY INSPECTED FULLY IMMERSION - TYPE 1.
PRODUCT PRODUCED TO THE REQUIREMENTS OF MIL-STD-2154 ALSO MEET THE REQUIREMENTS OF AMS-STD-2154. PRODUCT PRODUCED TO THE
REQUIREMENTS OF AMS-STD-2154 ALSO MEET THE REQUIREMENTS OF MIL-STD-2154.
PRODUCT PRODUCED AND MARKED TO THE REQUIREMENTS OF AMS-QQ-A-250/12 ALSO MEETS THE REQUIREMENTS OF QQ-A-250/12. PRODUCT
PRODUCED AND MARKED TO THE REQUIREMENTS OF QQ-A-250/12 ALSO MEETS THE REQUIREMENTS OF AMS-QQ-A-250/12.

COR: D164164.34 -Specification Limits

| Temp | Dir | UTS | TYS | ELAD |
|-------|--------------|------|------|------|
| T7351 | Long Transv. | KSI | KSI | FT |
| | Max | | 68.9 | |
| | Min | 59.0 | 57.0 | 6 |

Chantal Lavoie

From: Desbiens, Marc <mdesbien@amcastle.com>
Sent: December 12, 2012 9:19 AM
To: Chantal Lavoie
Subject: RE: info

Hi Chantal,

No, it's ok. You can use them as door stoppers or paper weights

Thanks

From: Chantal Lavoie [<mailto:clavoie@dartaero.com>]
Sent: Wednesday, December 12, 2012 9:05 AM
To: Desbiens, Marc
Subject: RE: info

Thank you Marc,
Would you like me to send the other two pcs.
Chantal

From: Desbiens, Marc [<mailto:mdesbien@amcastle.com>]
Sent: December 12, 2012 8:37 AM
To: Chantal Lavoie
Subject: RE: info

Hi Chantal,

We will replace 2 pcs @ no charge

Thanks

From: Chantal Lavoie [<mailto:clavoie@dartaero.com>]
Sent: Tuesday, December 11, 2012 11:56 AM
To: Desbiens, Marc
Subject: info

Hi Marc,
We have rec'd p/o:18441 for item D6101-003 for qty of 30 pcs. But 2 pcs the grain direction was on the wrong side what would you like to do.

Thanks
Chantal

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